"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.N.

Improvement of the division from the administrative and economic point of view. Zhel.dor.transp. 43 no.6:49-55 Je '61. (MIRA 14:7)

1. Nachal'nik Sverdlovskogo otdeleniya Sverdlovskoy dorogi.
(Railroads--Management)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.N.; PROKOPCHIK, S.I.; REZER, S.M.

Centralized transportation is an effective means for improving freight operations. Zhel.dor.transp. 44 no.7:11-15 Jl '62. (MIRA 15:8)

1. Zamestitel' nachal'nika stantsii Sverdlovsk-Tovarnyy (for Rezer). (Railroads--Freight)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

SOKOLOV, V.S., inzh.; LAZAREV, A.A., inzh.; POPOV, V.N., kand.tekhn.nauk; TARASOV, A.N., inzh.; POTAPOV, Yu.A., inzh.

Results of using the TSNIDI combustion chamber for KDM diesel tractors. Trakt. i sel'khozmash. 30 no.9:15-17 S '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy dizel'nyy institut (for Sokolov). 2. Chelyabinskiy traktornyy zavod (for Potapov).
(Diesel engines)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

BORDUKOV, V.T.; SOKOLOV, V.S.; LAZAREV, A.A.; POPOV, V.N.

Gas-turbine pressure charging of KDM diesel tractor engines. Trakt. i sel'khozmash. 30 no. 12:5-8 D'60. (MIRA 13:12)

1. TSentral'nyy nauchno-issledovatel'skiy dizel'nyy institut, Leningrad (for Bordukov, Sokolov). 2. Chelyabinskiy traktornyy zavod (for Lazarev, Popov).
(Diesel engines)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

BAYKOV, B.P., kand.tekhn.nauk; BORDUKOV, V.T., inzh.; SOKOLOV, V.S., kand. tekhn.nauk; LAZAREV, A.A., inzh.; POPOV, V.N., knad.tekhn.nauk; SUKHOV, Ye. I., inzh.

Results of turbocharging of the KDM-100 engines. Izv.vys.ucheb. zav.; mashinostr. no.5:37-46 '62. (MIRA 15:10)

1. TSentral'nyy nauchno-issledovatel'skiy dizel'nyy institut i Chelyabinskiy traktornyy zavod.
(Tractors—Engines—Superchargers)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.N.

Metastasis spreading of Brown-Pearce tumors implanted into the brain. [with summary in English]. Biul.eksp. biol. i med. 45 no.5:93-96 My '58 (MIRA 11:6)

1. Iz laboratorii eksperimental'noy patologii (zav. - prof. S.I. Lebedinskaya) otdela obshchey i eksperimental'noy patologii (zav. - akademik A.D. Speranskiy) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.

(NEOPLASMS, experimental
Brown-Pearce tumor, metastatic spreading after intracerebral transpl. (Rus))
(BRAIN NEOPLASMS, esperimental
same)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. N.; RAZUMEYEV, A. N. (Leningrad)

Nekotoryye voprosy vagogeneza shoka.

report submitted for the First Moscow Conference on Reticular Formation, Moscow, 22-26 March 1960.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.N., arkhitektor

Building of a new city of the Dnieper. Energ.stroi. no.23:147-151 '61. (MIRA 15:1)

1. Glavnyy arkhitektor Kremenchuggesstroya.
(Dnieper Valley--City planning)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

1. POPOV, V.N.

2. USSR (600)

4. Chusovoy District - Coal

7. Report on prospecting for coal in the northern part of the Chusovoy coal-field region in 1939-1943. Izv. Glav. upr. geol. fon. no. 2. 1947

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.N., gornyy inzh.

Transition from vertical shaft sinking to drift mining. Gor.zhur. no.9:71-72 S '60. (MIRA 13:9)

1. Dzhezkazganskoye shakhtostroitel'noye upravleniye.
(Mining engineering)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

TERENT'YEV, Yuriy Yakovlevich; GROMYKO, Leonid Georgiyevich; KOCHANOVSKIY, N.I., nauchnyy red.; POPOV, V.N., red.; TOKER, A.M., tekhn. red.

[Equipment and control instruments for resistance welding] Oborudovanie i apparatura dlia kontaktnoi svarki; al'bom. Moskva, Proftekhizdat, 1962. 137 p. (MIRA 15:11)
(Electric welding—Equipment and supplies)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 20679-65 AEDC(b)
ACCESSION NR: AR4047606 S/0273/64/000/009/0025/0025 B

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya. Otdel'ny*y vy*pusk, Abs. 9.39.147

AUTHOR: Popov, V.N., Kuznetsov, A.P.

TITLE: The effect of changing the volume of the air-intake system on the operation of a D-130 diesel with gas-turbine super charger

CITED SOURCE: Tr. Chelyab. in-ta mekhaniz. i elektrifik. s. kh., vy*p. 16, 1963, 203-212

TOPIC TAGS: diesel engine, gas turbine super charger, air intake, intake system volume, cylinder filling, fuel economy

TRANSLATION: An effort is made to explain the question of the effect of a change in the volume of the air intake system of a tractor engine with gas-turbine supercharger on the filling of the cylinder. The method of investigation necessitated developing a methodology for analytically determining the character of the effect of the intake system volume and obtaining the necessary experimental data on the basis of a D-130 diesel engine with gas-turbine supercharger with intake systems of different volumes. On the basis of the theoretical and experimental study conducted, the following conclusions may be drawn. Increasing

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 20679-65
ACCESSION NR: AR4047606

the volume of the intake system of the D-130 diesel from 12.5 to 36 liters provides a practical degree of improvement in the filling of the cylinder with air, increases fuel economy and reduces the heat stress on the elements of the cylinder-piston group and of the turbine by virtue of some increase in the charger pressure and a reduction of its oscillations in the intake collector, as well as because of a lowering of the temperature of the spent gases. Increasing the volume of the system to more than 36 liters has practically no further result. Raising the intake system volume of the D-130 diesel engine to the 36-liter mark has the most favorable effect on filling under conditions of maximum torque, which permits an increase in the moment of torque to 2%. Experimental data confirm the suitability of the derived equations for the analytical determination of the effect of the intake system volume on charger pressure and its fluctuations, and can therefore be used for a preliminary determination of the optimum volume of the intake system of a gas-turbo-charged diesel. In theory, it is most advantageous to have a variable volume for the intake system on the engine, which will change depending on the speed and load conditions of operation. It is advisable to increase the volume of intake systems of this type by dividing the air cleaner into two sections, with the first stage of the cleaner arranged rationally in front of the compressor and the second element located between the compressor and the intake collector.

SUB CODE: PR ENCL: 00

Card 2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 16104-65 EWT(1) IJP(c)/AEDC(a)/AFWL/SSD/AS(mp)-2
ACCESSION NR: AP5000329 S/0056/64/047/005/1759/1764

AUTHOR: Popov, V. N.

TITLE: Green function and thermodynamic functions of non-ideal Bose gas

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1759-1764

TOPIC TAGS: Green function, Bose Einstein gas, phase transition, specific heat, temperature dependence

ABSTRACT: Expressions are derived for the Green function and for the thermodynamic functions of a Bose gas of low density with the aid of a method developed in an earlier article (with L. D. Faddeyev, ZhETF v. 47, 1315, 1964). The formulas are valid at temperatures on the order of the phase transition temperature, but not close to the latter. The method can be used also for lower temperatures, but

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 16104-65 2

ACCESSION NR: AP5000329

some modification of the formulas is then necessary. An important feature of the thermodynamic formulas obtained, such as the formula for the pressure, is that the integration can be carried out with respect to ensemble parameters that can be varied during the course of an experiment. The temperature variations of the pressure, density, specific heat at constant pressure, and the velocity of sound are discussed. "The author is deeply grateful to L. D. Faddeyev for numerous valuable hints, and continuous interest in the work." Orig. art. has: 1 figure and 26 formulas.

ASSOCIATION: Leningradskiy gosudarstvenny*y universitet (Leningrad State University)

SUBMITTED: 09Apr64 ENCL: 00

SUB CODE: TD NR REF SOV: 002 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 8652-65 EWT(l)/EWP(m)/EWT(m)/EPF(c)/EPF(n)-2/EPR/T/EPA(bb)-2/FCS(k)/EWP(b)/EWA(l) Pd-4/Pr-4/Ps-4/Pu-4 AFTC(a)/ASD(d)/ASD(p)-3/AS(mp)-2/ASD(f)-2/BSD/AEDC(a)/SSD/ESD(t) JW/JG/JW

ACCESSION NR: AP4044527 S/0294/64/002/004/0599/0611

AUTHOR: Petukhov, B. S.; Popov, V. N.

TITLE: Theoretical calculation of heat transfer and friction resistance in a turbulent flow in a pipe of equilibrium dissociating hydrogen

SOURCE: Teplofizika vy*sokikh temperatur, v. 2, no. 4, 1964, 599-611

TOPIC TAGS: heat transfer, dissociation, turbulent flow, hydrogen dissociation, hydrogen oxygen mixture, equilibrium dissociation

ABSTRACT: A method is given for theoretical calculation of heat transfer and friction resistance in a turbulent flow of dissociating hydrogen in a pipe. It is assumed that the dissociation rate exceeds considerably the convective and diffusional mass transfer rates. In this case, chemical equilibrium is established in each point of the flow, and the composition of the mixture is a function of pressure and temperature only. In the case of equilibrium dissociation, the concentration profile in the flow may thus be defined without solving the diffusion equation. The heat transfer, friction resistance, and different

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 8652-65
ACCESSION NR: AP4044527

physical properties (specific enthalpy, specific heat, thermal conductivity, density, dynamic viscosity, and Prandtl number) were calculated at 1, 10, and 100 atm and 2000—5000K. Dissociation results in unique changes of physical properties as a function of pressure and temperature. The specific heat and the thermal conductivity change markedly with temperature and exhibit maxima. Fig. 1 of the Enclosure shows that owing to changes in physical properties caused by dissociation the heat transfer may change by 400%. Comparison of Fig. 1a and 1b shows that when the correction c_{pc}/c_p (c_p, specific heat at variable physical properties; c_p, average specific heat) is used, scattering of the data can be reduced from 380% to 30%. This signifies that the heat transfer is basically influenced by changes in the specific heat, and the effect of changes in viscosity and density on heat transfer does not exceed 30%. Orig. art. has: 40 formulas and 5 figures.

ASSOCIATION: none

SUBMITTED: 15 May64 ATD PRESS: 3111 ENCL: 02

SUB CODE: FP NO REF SOV: 002 OTHER: 013

Card 2/4

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

TAYTS, N.Yu., doktor tekhn. nauk; KLEYNER, M.K., inzh.; ZAVALISHIN, Ye.K., inzh.; KALUGIN, Ya.P., inzh.; FALILEYEV, I.L., inzh.; KAGAN, N.I., inzh. [deceased]; Prinimali uchastiye: POPOV, V.N. inzh.; CHUYKOV, A.A., inzh.; MINUKHINA, L.N., inzh.; KHATSAREVICH, V.R., inzh.; TOLMACHEVA, I.A., inzh.; BAZHENOVA, V.N., inzh.

Technological and thermodynamic characteristics of strip heating for the continuous furnace welding of pipes. Stal' 24 no.8:746-750 Ag '64. (MIRA 17:9)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut, Ural'skiy nauchno-issledovatel'skiy trubnyy institut i Chelyabinskiy truboprokatnyy zavod.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 11855-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) WW/GS

ACC NR: AT6001351 SOURCE CODE: UR/0000/65/000/000/0050/0058

AUTHOR: Popov, V. N.

ORG: Moscow Power Institute (Moskovskiy energeticheskiy institut)

TITLE: Theoretical calculation of heat transfer and friction resistence for carbon dioxide in the transcritical region

SOURCE: Teplo- i massoperenos. t. 1: Konvektivnyy teploobmen v odnorodnoy srede (Heat and mass transfer. v. 1: Convective heat exchange in an homogeneous medium). Minsk, Nauka i tekhnika, 1965, 50-58

TOPIC TAGS: heat transfer, friction coefficient, carbon dioxide, critical point, critical pressure

ABSTRACT: The article is a completely theoretical treatment of the subject based on a previously published expression for the Nusselt number for the case of steady-state, axisymmetric, turbulent flow in a tube in an incompressible fluid with varying physical properties. The expression has the form:

Card 1/2 UDC: None

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 11855-66

ACC NR: AT6001351

$$\frac{1}{Nu_c} = 2\frac{c_{p_c}}{\bar{c}_p}\int_0^1 \frac{\left(\int_0^R \frac{\rho w_x}{\rho_0 w_0} R dR\right)^3}{\frac{\lambda}{\lambda_c}\frac{c_{p_c}}{\bar{c}_p}\left(1+\beta Pr\frac{\varepsilon_q}{\nu}\right)R} dR, \quad (1)$$

where

$$Nu_c = \frac{q_c d}{\lambda_c(T_c - T_{\text{ж}\ell})}; \quad \bar{c}_p = \frac{\int_{T_{\text{ж}\ell}}^{T_c} c_p dT}{T_c - T_{\text{ж}\ell}} = \frac{h_c - h_{\text{ж}\ell}}{T_c - T_{\text{ж}\ell}}; \quad R = \frac{r}{r_0}.$$

Equation (1) is valid for a section of the tube far from the inlet, that is, a section in which the hydrodynamic and thermal boundary layers coincide. The article gives a figure showing the results of a calculation of heat transfer for carbon dioxide at a pressure of 98.1×10^5 newtons/meter^2. Also based on data from the literature, a further curve shows the results of calculation of the friction resistance for carbon dioxide at a pressure of 98.1×10^5 newtons/meter^2. Calculated results are said to agree well with existing experimental data. Orig. art. has: 15 formulas and 4 figures.

SUB CODE: 20/ SUBM DATE: 31Aug65/ ORIG REF: 001/ OTH REF: 002

Card 2/2 HW

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.N.

Green's functions and thermodynamic functions of a nonideal Bose gas (second approximation). Vest.LGU 20 no.22:58-64 '65. (MIRA 18:12)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

S/185/61/006/001/001/011
D210/D305

AUTHOR: Popov, V.O.

TITLE: Energy spectra of an antiferromagnetic material in a magnetic field

PERIODICAL: Ukrayins'skyy fizichnyy zhurnal, v. 6, no. 1, 1961, 25-33

TEXT: The thermodynamics of antiferromagnetic materials require a knowledge of its energy spectrum. With the help of the theory of nuclear spin this spectrum can be obtained for low frequencies ($ak \ll 1$; k - spin number; a - the lattice constant). In the present article the author evaluates exactly the energy spectra for various values of the external magnetic field and explains the effect of the dipole orientation. It is found that irrespective of the type and of the ground state of the antiferromagnetic crystal its energy spectrum can be represented by one expression only:

$$\varepsilon_{12}(k) = \frac{\mu}{\sqrt{2}} \left[D_1 + Q_1 + Q_2 \pm \sqrt{(D_1 + Q_1 - Q_2)^2 - 4D_2 (Q_1 - Q_2)} \right]^{\frac{1}{2}} \quad (7)$$

Card 1/3

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

where D_1, Q_1 - depend on the type and on the ground state of the material and $\mu = g\hbar$, where g is the nuclear gyromagnetic ratio. It is stated in conclusion that the result obtained shows that the energy spectra of a uniaxial antiferromagnetic crystal, characterized by the two densities of its magnetic moments, are independent of the type of the material and of its ground state and are determined by a single equation (7) which takes into account dipole orientation. The energy spectrum has two values, from which one becomes the spectrum of an ordinary ferromagnetic material in very strong magnetic fields and the other characterizes the antiferromagnetic material. Part of the energy of the nuclear spin, due to the dipole orientation, associated with the first term increases in absolute value with the increase of the external magnetic field and decreases in the second term, becoming zero for the ferromagnetic state. The dipole orientation influences the spin energy but has no effect on the thermodynamic potential of the antiferromagnet. In the first general part of the article the author states that the expression for the energy density of the grounded state of the antiferromagnet for two simple cases as obtained by S.V. Tyablikov

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

S/185/61/006/003/003/010
D208/D302

24.7900 (1144, 1147, 1055)

AUTHORS: Bar'yakhtar, V.G. and Popov, V.O.

TITLE: On the thermodynamics of antiferromagnetics in a magnetic field

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 3, 1961, 340-351

TEXT: The heat capacity and magnetization of antiferromagnetics are calculated for a wide range of values of magnetic field and low temperatures; the effect of dipole-dipole interaction on the thermodynamic characteristics of antiferromagnetics is ascertained. Those antiferromagnetics are considered whose magnetic moment, in the absence of an external magnetic field, is oriented: a) along a selected axis and b) lies in the ground plane. In case a) (magnetic moment of sublattices oriented along a selected axis) the thermodynamic potential is given by:

$$\Omega = \sum_{j=1,2} \frac{T}{(2\pi)^3} \int d_{\varkappa} \ln\left(1 - e^{-\frac{\varepsilon_j(\varkappa)}{T}}\right) = -\frac{1}{24\pi^3} \sum_{j=1,2} \int \frac{k_j^3(\varepsilon_j)\, d\varepsilon_j\, dO_{\varkappa}}{e^{\frac{\varepsilon_j}{T}} - 1}, \qquad (1)$$

Card 1/5

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

On the thermodynamics...

where T is the temperature in ergs, ε_j the energy of the spin wave and $d\Omega_k$ the elementary solid angle in the direction of the wave vector k. The magnetization and the heat capacity are

$$\mathfrak{M} = -\frac{\partial \Omega}{\partial H}, \quad C_s = -T\frac{\partial^2 \Omega}{\partial T^2} \tag{2}$$

The simplified expressions for the energy spectrum are

$$\varepsilon_1 = \mu\sqrt{Q_1 + D_1 - D_2}, \quad \varepsilon_2 = \mu\sqrt{Q_2 + D_2} \tag{4}$$

(the terms D_j are due to the dipole interaction). The notations in this article were adopted from (Ref. 4: V.O. Popov, Ukr. fiz. zhurn., 6, 1, 1961). By using formulae from Ref. 4, the expressions for the potential become

$$\Omega = -\frac{T}{(2\pi)^{3/2} a^3}\left(\frac{T}{T\delta_1}\right)^3 \left(\frac{\mu H s_{3/2}}{T}\right)^{5/2}\left[2 + \left(\frac{\mu H_0}{T}\right)^2 + \frac{1}{12}\left(\frac{\mu H_0}{T}\right)^4\right] e^{-\frac{\mu H s_{3/2}}{T}} \tag{5}$$

Card 2/5

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

On the thermodynamics...

$$\Omega = -\frac{T}{a^3}\left(\frac{T}{T_{\delta 1}}\right)^3\left[\frac{\pi^2}{45} + \frac{1}{6}\left(\frac{\mu H_0}{T}\right)^2 + \frac{1}{16\pi}\left(\frac{\mu H_0}{T}\right)^4 \frac{H_0}{H_{\delta 32}}\right] \qquad (6)$$

From (5) and (6) it follows that with external fields $H_0 \ll H_{\delta 32}$, the dipole-dipole interaction practically does not affect Ω. In fields $\mu H_0 \sim T$, the relationship between field and magnetization is non-linear. With temperatures much higher or much lower than $\mu\sqrt{H_0^2 - H_{\delta 31}^2}$, the relationship between field and magnetization will be linear. For $\Delta\mathfrak{M}$ the following expressions are given:

$$\Delta\mathfrak{M} = \mathfrak{M}(T) - \mathfrak{M}(0) =$$

$$= \frac{\mu}{a^3}\left[\frac{\pi^2}{30}\cdot\frac{H_0}{H_{\delta 1}}\cdot\frac{T}{\mu H_{\delta 1}}\left(\frac{T}{T_{\delta 1}}\right)^3 - \frac{\mu^3 H_0 (H_0^2 - H_{\delta 31}^2)}{(2\pi)^{3/2} T_{\delta 1}^{1/2}} e^{-\frac{\mu\sqrt{H_0^2 - H_{\delta 31}^2}}{T}}\right], \qquad (12)$$

$$\mu M_0 \ll T \ll \mu\sqrt{H_0^2 - H_{\delta 31}^2};$$

$$\Delta\mathfrak{M} = -\frac{\mu}{12a^3}\cdot\frac{\mu H_0}{T_{\delta 1}}\left(\frac{T}{T_{\delta 1}}\right)^3\left[1 - \frac{3}{\pi}\cdot\frac{\mu\sqrt{H_0^2 - H_{\delta 32}^2}}{T}\right], \qquad (13)$$

$$\mu\sqrt{H_0^2 - H_{\delta 31}^2} \ll T \ll T_{\delta 1}.$$

Card 3/5

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

S/185/61/006/003/003/010
D208/D302

On the thermodynamics...

From these it is evident that for $\mu\sqrt{H_0^2 - H_{\delta\beta 1}^2} \sim T$ the dependence of magnetization on the field H_0 is non-linear. As a result of the asymmetry of the surface energy, the thermal oscillations of the magnetic moments M_1 and M_2, corresponding to the second band of the energy spectrum of the antiferromagnetic, lead to the paramagnetic effect, and the thermal oscillations of the moments corresponding to the first band, to the diamagnetic effect. By using formulae from Ref. 4, the author obtains expressions for Ω, $\Delta\mathfrak{M}$, and C_s which show that the effect of the field on C_s decreases with temperature, diamagnetism appears, the terms with η become more effective. The dipole-dipole interaction does not affect Ω, $\Delta\mathfrak{M}$ and C_s. The authors conclude that the dipole-dipole interaction does not appreciably affect the magnetization and heat capacity except in the case that the external field H_0 has values near to its critical values H_δ and $H_{\delta\beta}$. This is due to the fact that the principal terms of the dipole-dipole interaction cancel each other. By taking into account the terms which contain $\eta = \left|\frac{H_0}{H_\delta}\right|^2$, it was found that in

Card 4/5

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

On the thermodynamics...

several cases the magnetization changes with temperature (for $T \ll \mu H \S \beta$) according to the power law, and to the $e^{-\frac{A}{T}}$ law, which is usually assumed. At temperatures $T \gg \mu H \S \beta$ it is also necessary to take these terms into consideration. The author expresses his thanks to O.I. Akhiyezer. There are 4 Soviet-bloc references.

ASSOCIATION: Fizyko-tekhnichnyy instytut AN USSR (Physico-technical Institute of the AS UkrSSR) Khar'kov

SUBMITTED: August 15, 1960

Card 5/5

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

45343
S/181/63/005/002/019/051
B104/B102

24,2800
24,7500

AUTHORS: Velyukhanova, G. A., Pasynkov, R. Ye., Pozern, V. I., and Popov, V. P.

TITLE: Study of the mechanical nonlinearity of a series of polycrystalline ferroelectrics

PERIODICAL: Fizika tverdogo tela, v. 5, no. 2, 1963, 506-512

TEXT: The mechanical properties of the following five piezoceramic materials are studied: $BaTiO_3$ (I); 95%$BaTiO_3$ + 5%$CaTiO_3$ (II); 95%$BaTiO_3$ + 5%$CaTiO_3$ + 0.75%$CoCO_3$ (III); 40% $BaNb_2O_6$+60%$PbNb_2O_6$ (IV); $Pb_{0.95}Sr_{0.05}(Zr_{0.63}Ti_{0.47})O_3$ + 1%Ta_2O_5 (V). Young's modulus E was determined from the resonance frequencies of the longitudinal oscillations of rods. The mechanical Q factor, Q_M, was determined from the experimental frequency characteristics of the total current. The absolute magnitudes of the mechanical stresses with small oscillation amplitude are determined from the relations between mechanical stresses σ, the oscillation velocities and the active current passing through the transducer.

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 22564-65 EEC(b)-2/EWA(h)/EWT(1) Pg-4/Pl-4/Pm-4/Pa-4/Pq-4/Peb
ACCESSION NR: AT5002480 8/2720/64/002/000/0066/0082

AUTHOR: Popov, V. P.

TITLE: Some problems of reliability and repairability of machines

SOURCE: Kibernetiku - na sluzhbu kommunizmu, v. 2, 1964. Teoriya nadezhnosti i teoriya massovogo obsluzhivaniya (Theory of reliability and theory of mass service), 66-82

TOPIC TAGS: machine part, quality control, preventive maintenance, maintenance scheduling, machine repair

ABSTRACT: The author reviews first the effect that failure, wear, and replacement of parts constituting a machine tool have on the operating reliability and the repairability of the machine as a whole, and the practical and theoretical difficulties that prevent exact determination of the interactions between these factors. The principal concepts of reliability theory are defined as applied to individual parts, part assemblies, a machine, and a group of machines. Economic measures of machine reliability are defined, and the problem of adequate supply

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 22564-65
ACCESSION NR: AT5002480 O

of spare parts or machines to ensure uninterrupted operation is briefly mentioned. Machine failures are defined as technological (affecting the operating process of the machine), due to wear (of individual parts), due to sudden breakage, and due to faulty use of the machine. Statistical methods for calculating the resistance of a machine to wear and for calculating machine reliability are then discussed in some detail. The repairability of a machine is defined and different methods of preventive maintenance are discussed. It is pointed out that machine repairability should be a factor accounted for during the initial design of the machine. Orig. art. has: 7 figures and 32 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: IE

NR REF SOV: 010 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 8834-66 EWT(l)/EWP(m)/ETC/EPF(n)-2/EWG(m)/EWA(d)/FCS(k)/EWA(h)/EWA(l) WW

ACC NR: AT5027201 UR/0000/65/000/000/0160/0167

AUTHOR: Popov, V.P.

ORG: Heat and Mass Transfer Institute, AN BSSR, Minsk (Institut teplo- i massoobmena AN BSSR)

TITLE: Investigation of the turbulence characteristics in a bounded jet

SOURCE: AN BSSR. Institut teplo- i massoobmena. Teplo- i massobmen tel s okruzhayushchey gazovoy sredoy (Heat and mass exchange of bodies with the surrounding gaseous medium). Minsk, Nauka i Tekhnika, 1965, 160-167

TOPIC TAGS: turbulent flow, gas jet, TURBULENT HEAT TRANSFER, TURBULENT JET

ABSTRACT: The experiments were carried out in the space of a chamber between the nozzle and a grid. The distance from the nozzle to the grid and the construction of the grid were varied. Experiments were also made without a grid. Details of the experimental conditions are shown in a table. The intensity of the turbulence was measured with a ET4M-3A electrothermoanemometer and a ASChKh-1 spectrum frequency analyzer. Analysis of the experimental data resulted in the following conclusions:

Card 1/2

BVK

Card 2/2

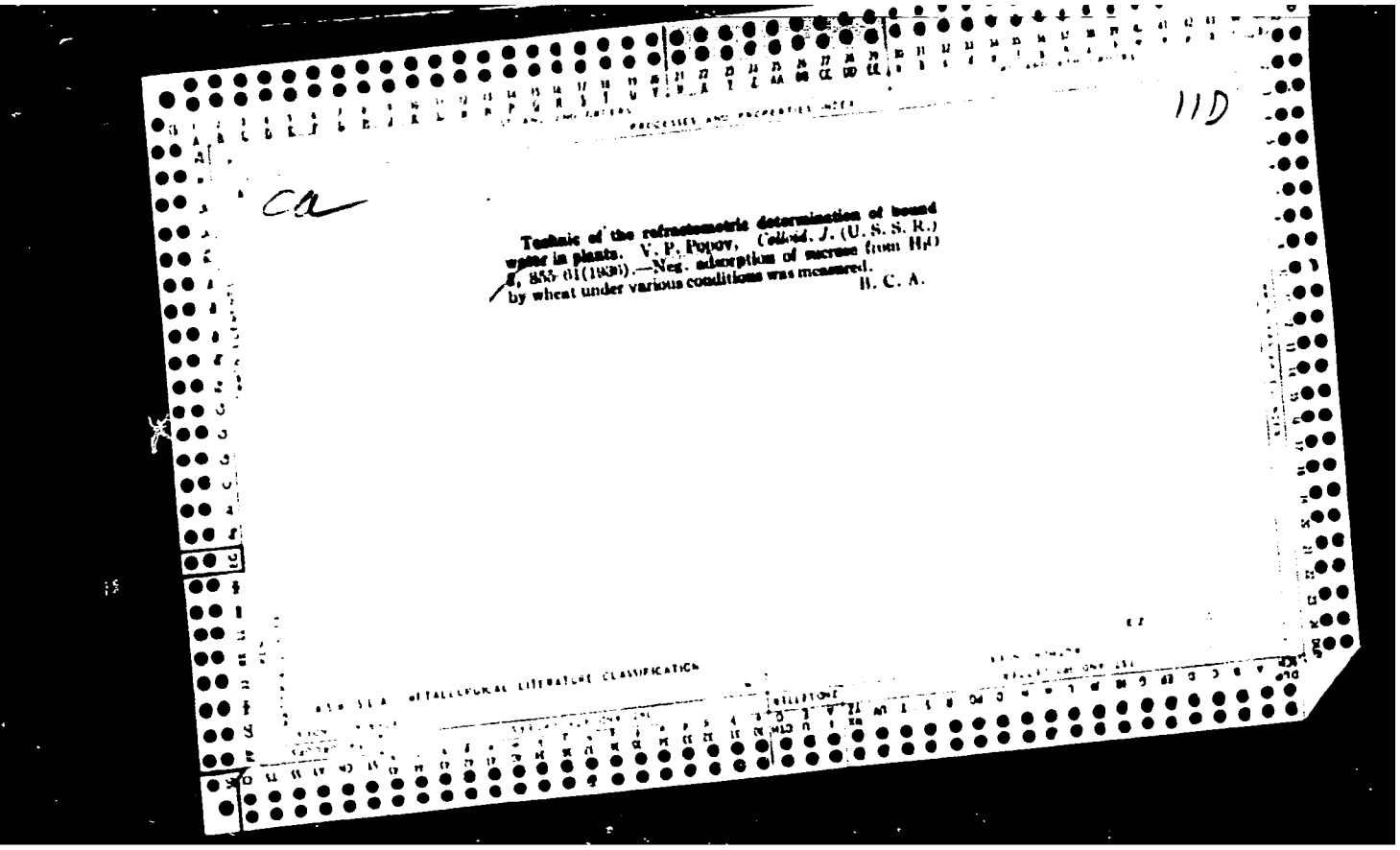
"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P.

Life and interrepair periods of residential buildings. Nauch. trudy AKKH no.31:27-40 '64. (MIRA 18:9)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

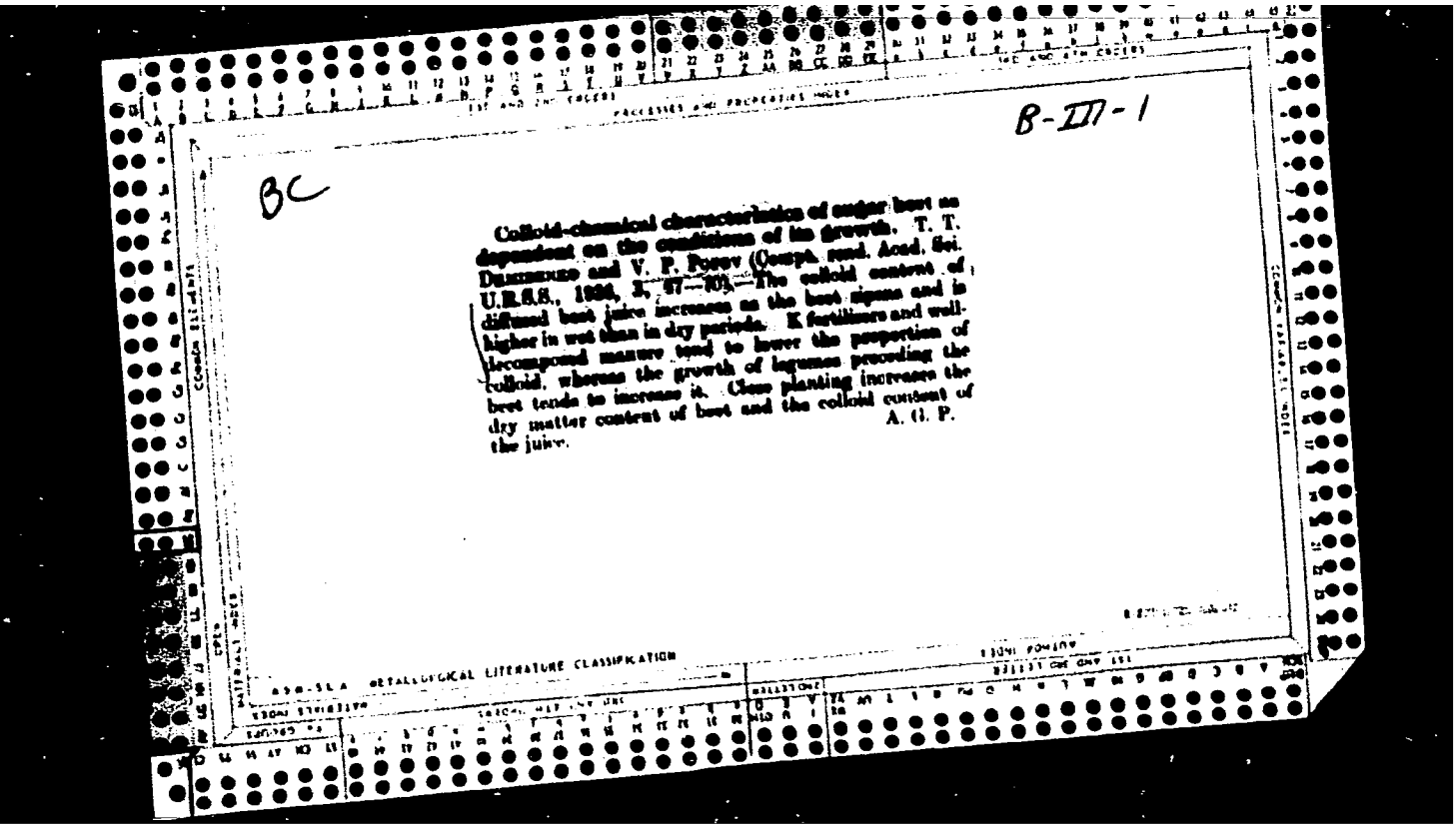
"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



Technic of the refractometric determination of bound water in plants. V. P. Popov. Colloid. J. (U. S. S. R.) 3, 853-61(1938).—Neg. adsorption of sucrose from H_2O by wheat under various conditions was measured.
B. C. A.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



B-III-1

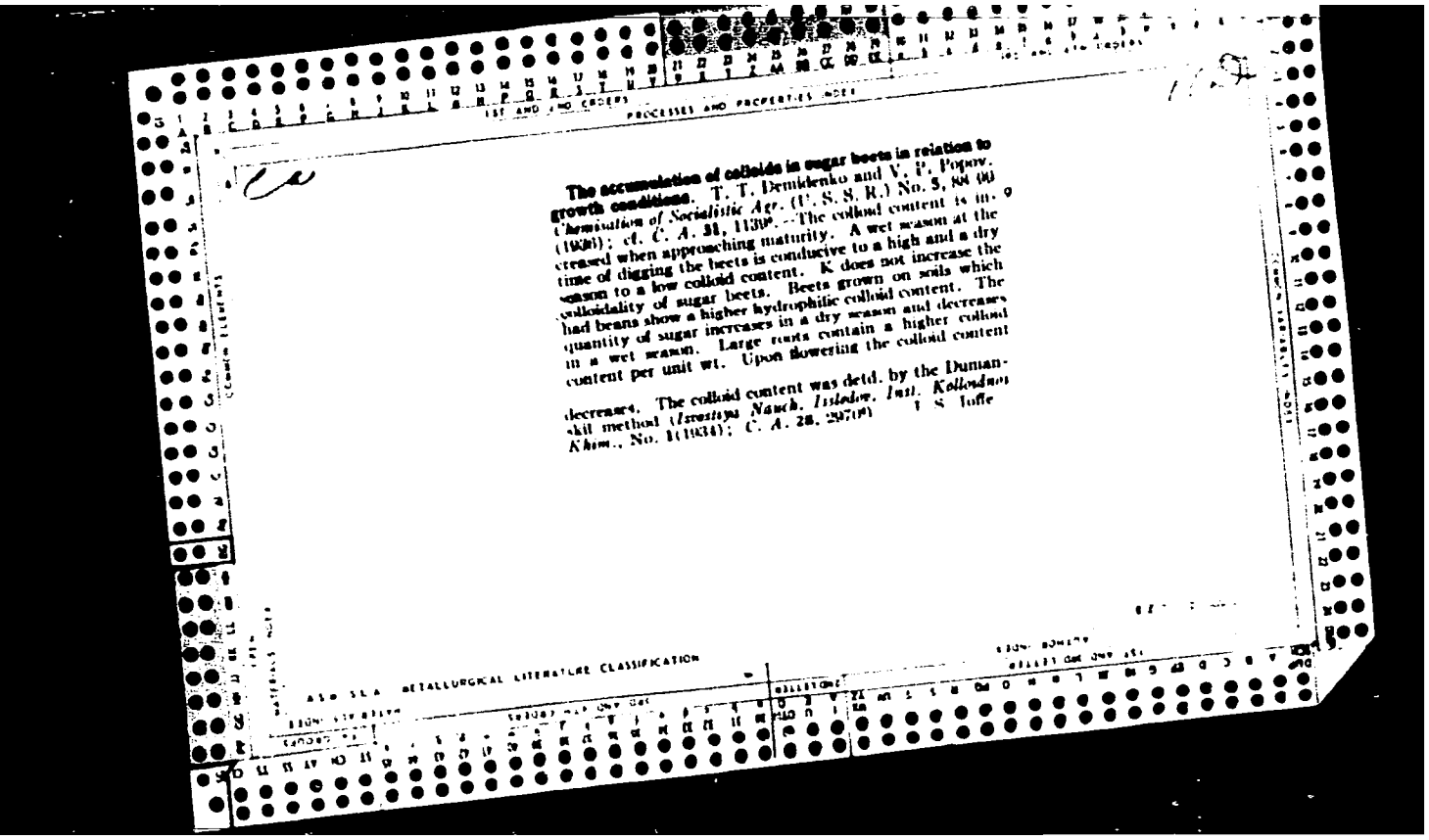
BC

Colloid-chemical characteristics of sugar beet as dependent on the conditions of its growth. T. T. Denisenko and V. P. Popov (Compt. rend. Acad. Sci. U.R.S.S., 1936, 3, 97—103).—The colloid content of diffused beet juice increases as the beet ripens and is higher in wet than in dry periods. K fertilisers and well-decomposed manure tend to lower the proportion of colloid, whereas the growth of legumes preceding the beet tends to increase it. Close planting increases the dry matter content of beet and the colloid content of the juice. A. G. P.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

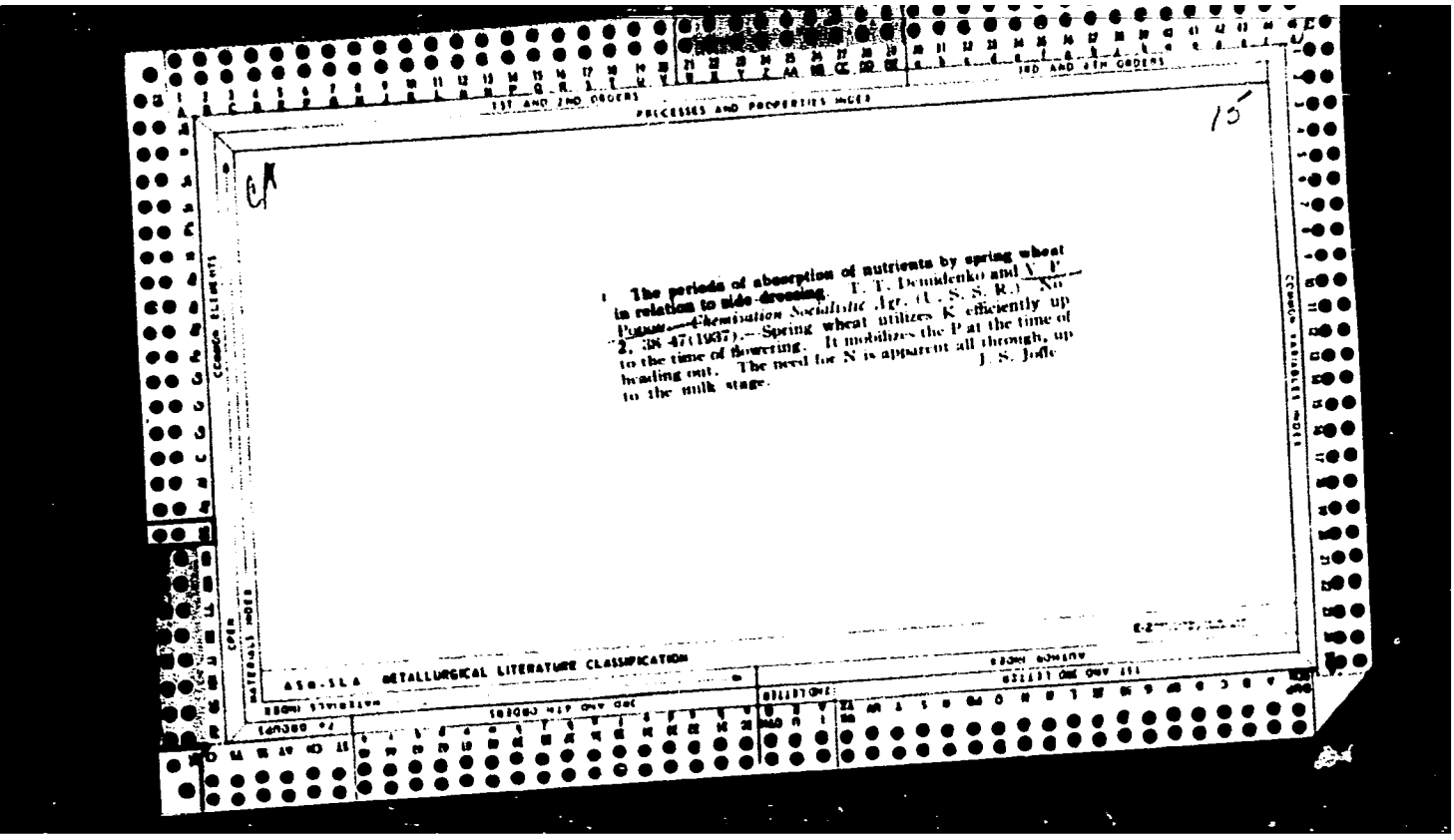
"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



The accumulation of colloids in sugar beets in relation to growth conditions. T. T. Demidenko and V. P. Popov. (*Khimisation of Socialistic Agr.* (U. S. S. R.) No. 5, 88-90 (1933); cf. *C. A.* 31, 1139.—The colloid content is increased when approaching maturity. A wet season at the time of digging the beets is conducive to a high and a dry season to a low colloid content. K does not increase the colloidality of sugar beets. Beets grown on soils which had beans show a higher hydrophilic colloid content. The quantity of sugar increases in a dry season and decreases in a wet season. Large roots contain a higher colloid content per unit wt. Upon flowering the colloid content decreases. The colloid content was detd. by the Dunanskill method (*Izvestiya Nauch. Issledov. Inst. Kollondnoi Khim.*, No. 1(1934); *C. A.* 28, 2971). I. S. Ioffe

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

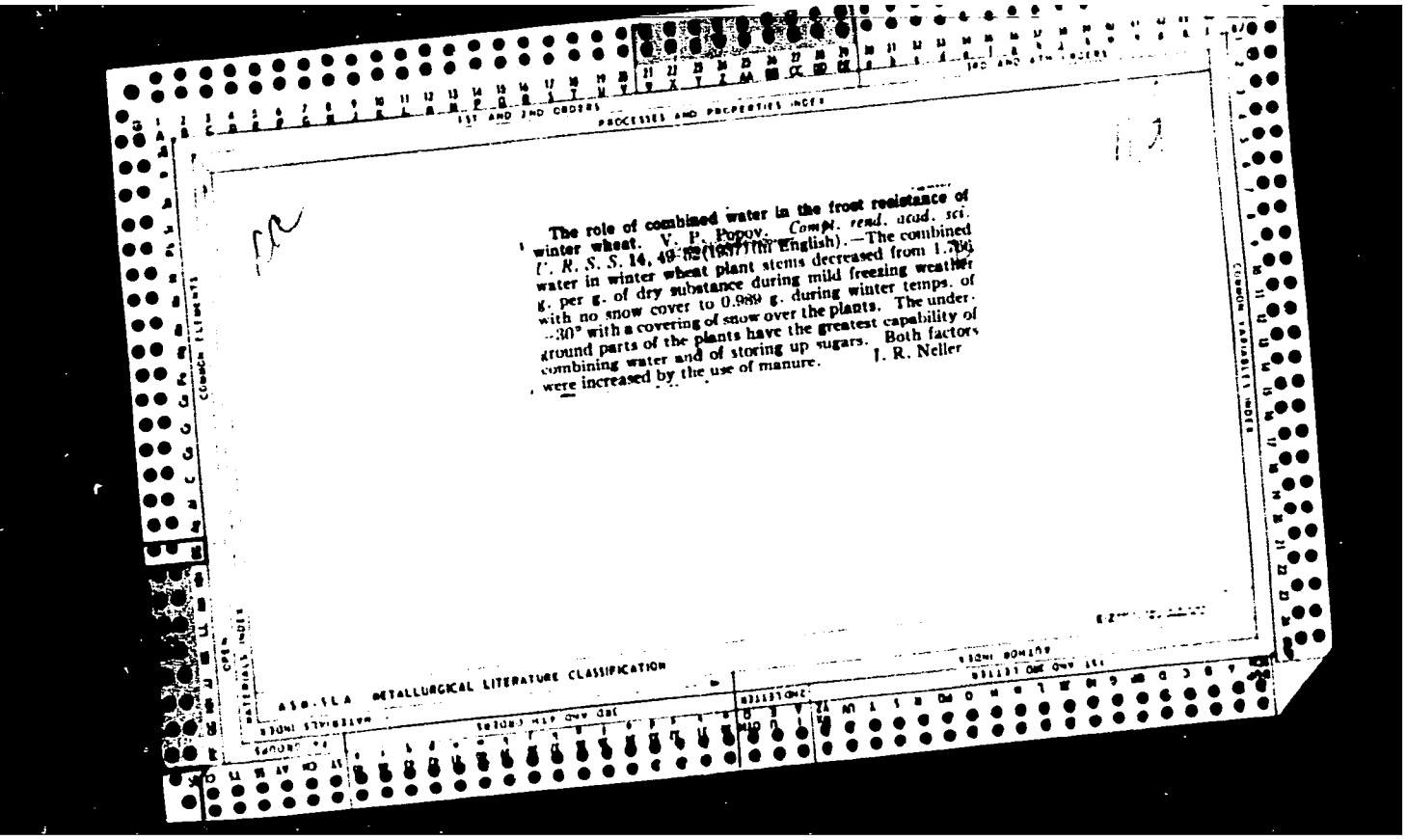
"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



The periods of absorption of nutrients by spring wheat in relation to side-dressing. T. T. Demidenko and V. P. Pupun. *Khimizatsiya Sotsialisticheskogo Sel'.Khoz.* (U. S. S. R.) No. 2, 38-47 (1937).—Spring wheat utilizes K efficiently up to the time of flowering. It mobilizes the P at the time of heading out. The need for N is apparent all through, up to the milk stage. J. S. Joffe

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

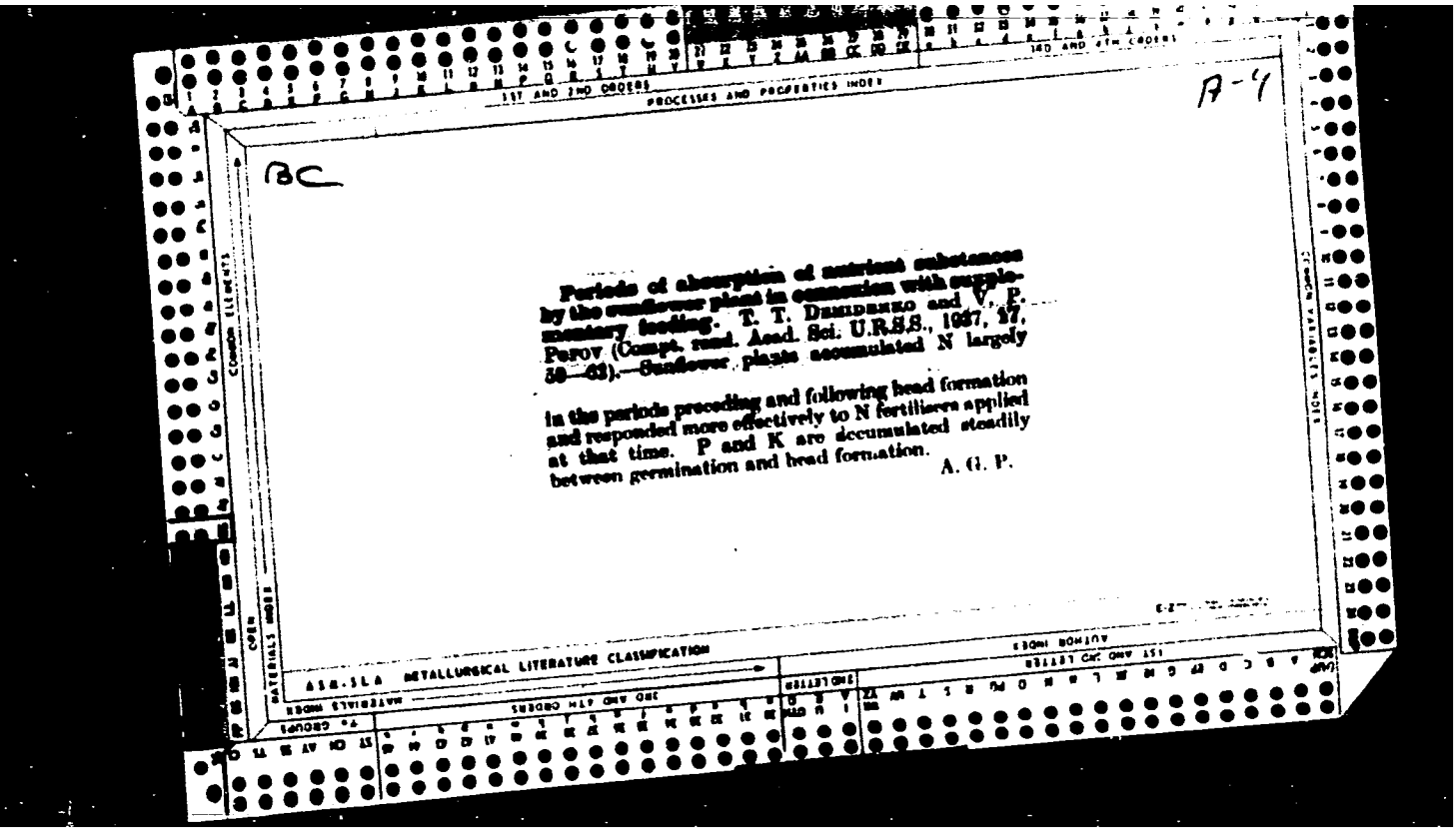
"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



The role of combined water in the frost resistance of winter wheat. V. P. Popov. *Compt. rend. acad. sci. U. R. S. S.* 14, 49-52 (1937) (In English).—The combined water in winter wheat plant stems decreased from 1.795 g. per g. of dry substance during mild freezing weather with no snow cover to 0.989 g. during winter temps. of −30° with a covering of snow over the plants. The underground parts of the plants have the greatest capability of combining water and of storing up sugars. Both factors were increased by the use of manure. J. R. Neller

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



BC

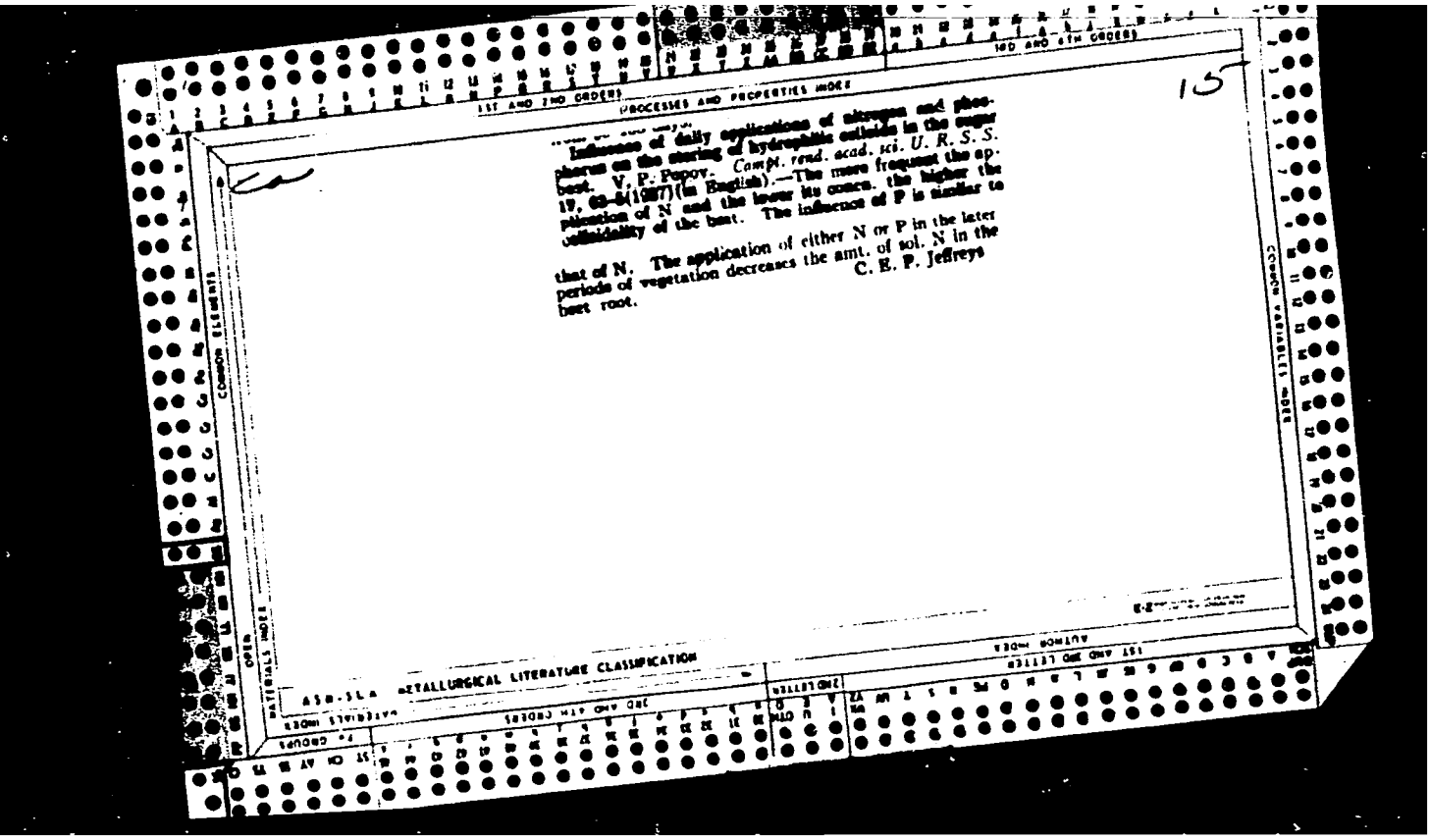
A-4

Periods of absorption of nutrient substances by the sunflower plant in connection with supplementary feeding. T. T. Demidenko and V. P. Pepov (Compt. rend. Acad. Sci. U.R.S.S., 1937, 17, 59—61).—Sunflower plants accumulated N largely in the periods preceding and following head formation and responded more effectively to N fertilisers applied at that time. P and K are accumulated steadily between germination and head formation.

A. G. P.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



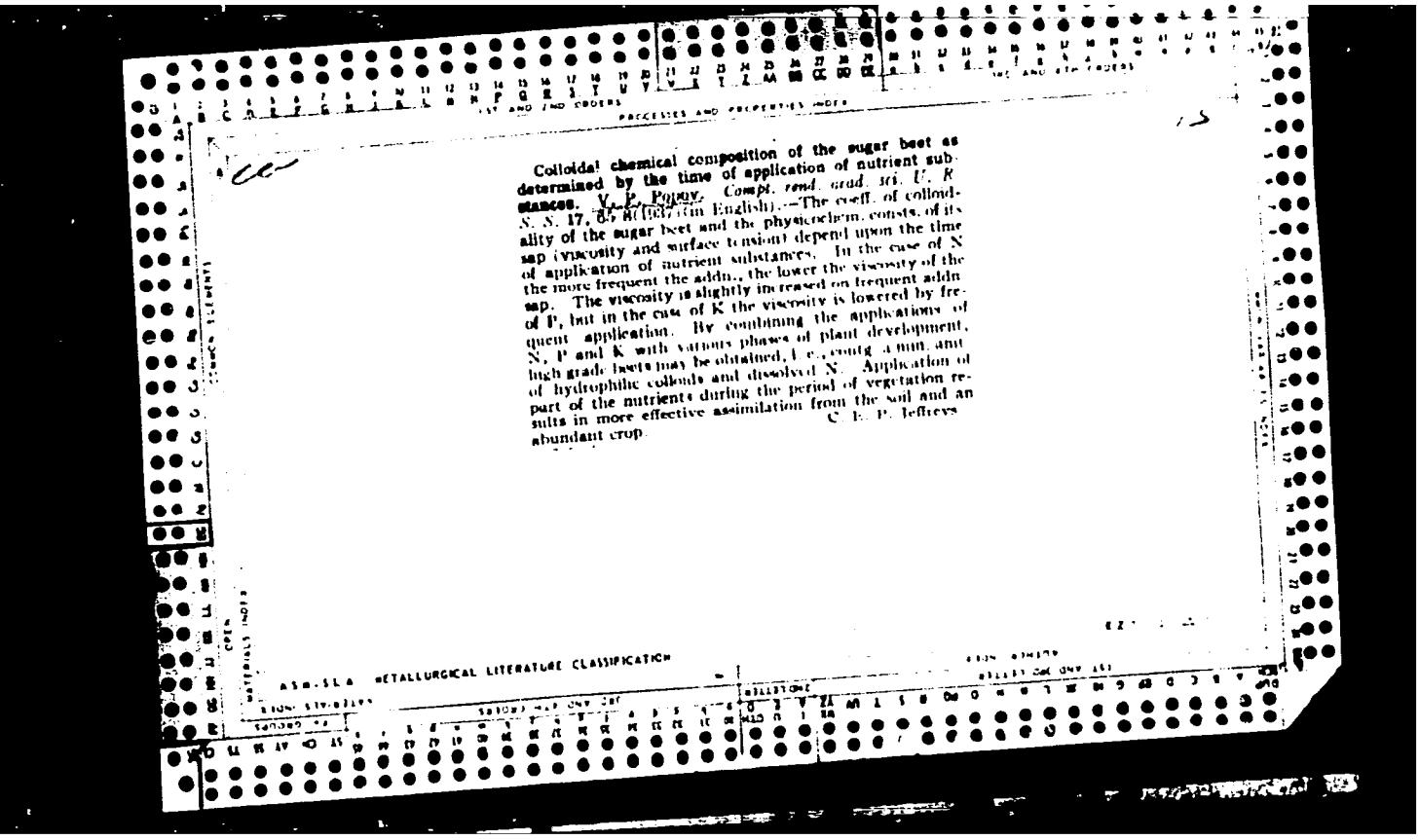
15

Influences of daily applications of nitrogen and phosphorus on the storing of hydrophilic colloids in the sugar beet. V. P. Popov. *Compt. rend. acad. sci. U. R. S. S.* 19, 63-5(1937)(in English).—The more frequent the application of N and the lower its concn. the higher the colloidality of the beet. The influence of P is similar to that of N. The application of either N or P in the later periods of vegetation decreases the amt. of sol. N in the beet root.

C. E. P. Jeffreys

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

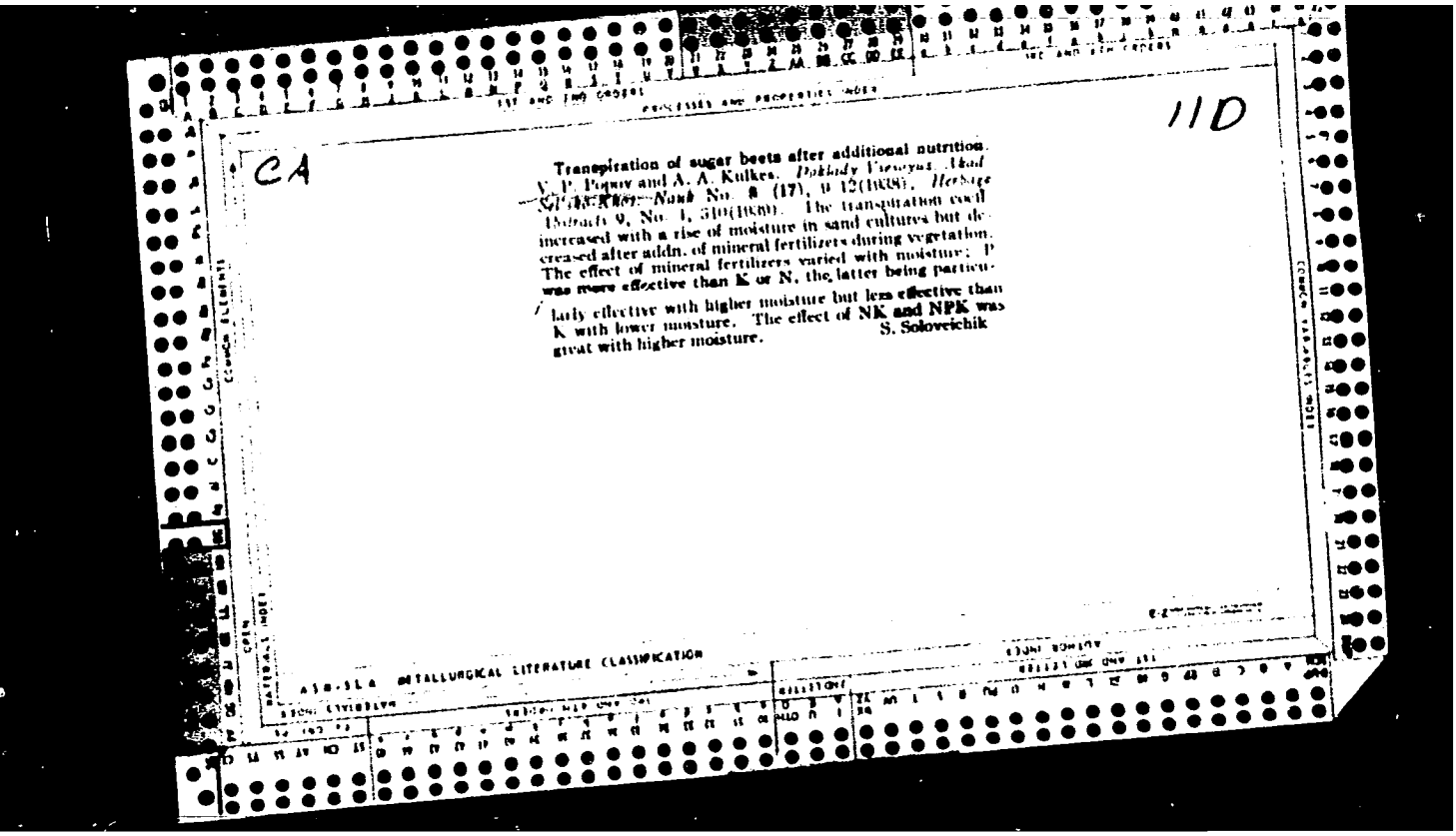
"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



Colloidal chemical composition of the sugar beet as determined by the time of application of nutrient substances. V. P. Popov. *Compt. rend. acad. sci. U. R. S. S.* 17, 67-8 (1937) (in English).—The coeff. of colloidality of the sugar beet and the physicochem. consts. of its sap (viscosity and surface tension) depend upon the time of application of nutrient substances. In the case of N the more frequent the addn., the lower the viscosity of the sap. The viscosity is slightly increased on frequent addn of P, but in the case of K the viscosity is lowered by frequent application. By combining the applications of N, P and K with various phases of plant development, high grade beets may be obtained, i. e., contg. a min. amt of hydrophilic colloids and dissolved N. Application of part of the nutrients during the period of vegetation results in more effective assimilation from the soil and an abundant crop. C. L. P. Jeffreys

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



CA

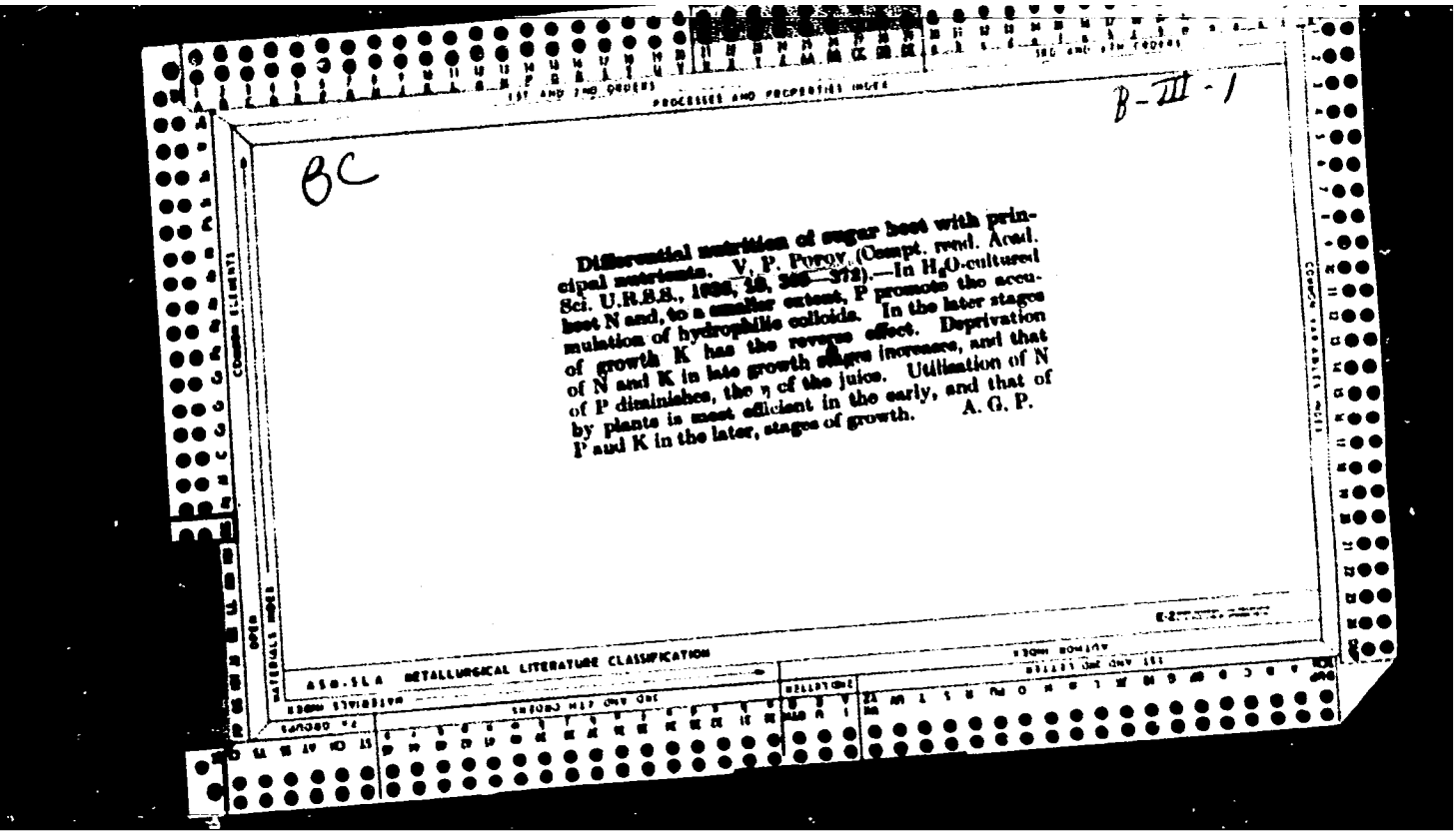
11D

Transpiration of sugar beets after additional nutrition. V. P. Popov and A. A. Kulkes. *Pokhdy Vsesoyuz. Inst. Sakh. Prom. Nauk* No. 8 (17), 9-12(1939). *Referat Zhur. Biol.* 9, No. 1, 500(1939). The transpiration coeff. increased with a rise of moisture in sand cultures but decreased after addn. of mineral fertilizers during vegetation. The effect of mineral fertilizers varied with moisture; P was more effective than K or N, the latter being particularly effective with higher moisture but less effective than K with lower moisture. The effect of NK and NPK was great with higher moisture. S. Soloveichik

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



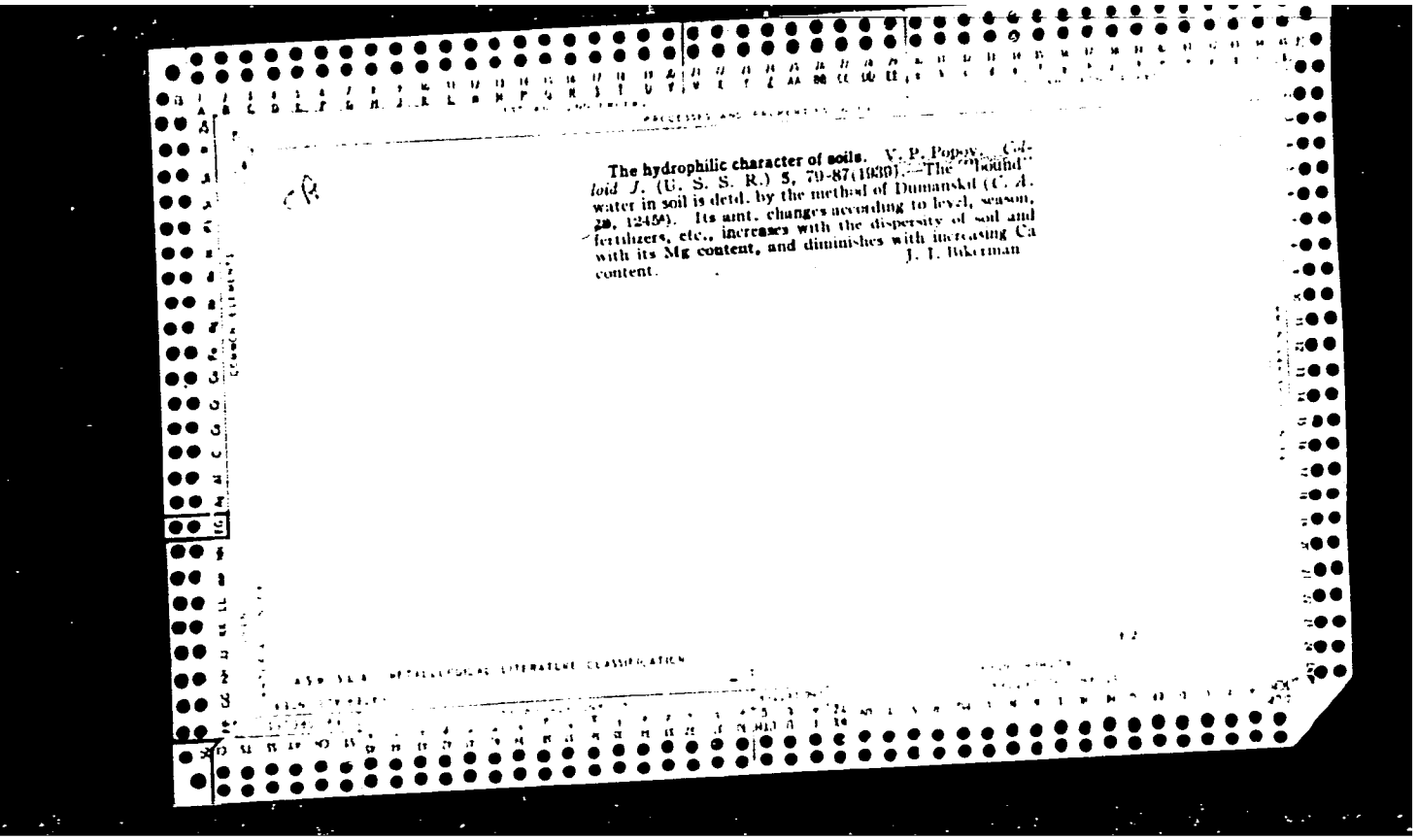
B-III-1

BC

Differential nutrition of sugar beet with principal nutrients. V. P. Purov. (Compt. rend. Acad. Sci. U.R.S.S., 1936, 13, 369—372).—In H_2O-cultured beet N and, to a smaller extent, P promote the accumulation of hydrophilic colloids. In the later stages of growth K has the reverse effect. Deprivation of N and K in late growth stages increases, and that of P diminishes, the η of the juice. Utilisation of N by plants is most efficient in the early, and that of P and K in the later, stages of growth. A. G. P.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



The hydrophilic character of soils. V. P. Popov. *Colloid J.* (U. S. S. R.) **5**, 79-87(1939).—The "bound" water in soil is detd. by the method of Dumanskii (C. A. **28**, 1245⁹). Its amt. changes according to level, season, fertilizers, etc., increases with the dispersity of soil and with its Mg content, and diminishes with increasing Ca content.

J. L. Bikerman

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

PA 54T11

POPOV, V. P.

USSR/Academy of Sciences
Agriculture

May 1947

"Department of Agricultural Sciences of the Academy of Sciences, USSR," V. P. Popov, Candidate Agr Sci, 2½ pp

"Vest Akad Nauk SSSR" No 5

This department, instituted on suggestion of Council of Ministers of USSR, given duty of discovering practical and theoretical methods to improve productivity of agricultural industries of Soviet Union. One of most important tasks now is discovery of an efficient method of crossbreeding and selective breeding of crops.

54T11

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P. and POPOVA, A. A.

"The effect of nutritional conditions on the yield and quality of sugar sorghum," Nauch. trudy (Akad. nauk Ukr. SSR, In-t fiziologii rasteniy i agrokhimii), No. 1-2, 1948 p. 146-51

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P.

Popov, V. P.- "The categories of water in the ground and in the sub-soil," (Survey of the literature), Nauch. zapiski (Kievsk. gos. un-t im. Shevchenko), Vol. VII, Issue 6, 1948, P. 5-44, - Bibliog: p. 43-44, - (Name of periodical in Ukranian)

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

KLITSENKO, I.I.; POPOV, V.P.

Saturation irrigation of crops. Visnyk AN URSR 24 no.10: 61-62 O '52. (MLRA 9:9)

(Irrigation)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P.

ZAMORIY, P.K., professor, vidpovidal'niy redaktor; MARINICH, O.M., dotsent, redaktor; MUKOMEL', I.F., dotsent, redaktor; NAZAROV, V.O., professor, redaktor; POGREBNYAK, P.S., professor, redaktor; POPOV, V.P., professor, redaktor; PYARTLI, K.P., dotsent, redaktor

[Papers on the nature and agriculture of the Ukrainian Polesye] Narysy pro pryrodu i sil's'ke hospodarstvo Ukrains'koho Polissia. [Kyiv] Vyd-vo Kyivs'koho derzh.univ.im. T.H.Shevchenka, 1955. 529 p.
(MLRA 10:7)

1. Kiyev. Universitet.
(Polesye--Agriculture)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P.

14-1-679

Translation from: Referativnyy Zhurnal, Geografiya, 1957, Nr 1, p. 81 (USSR)

AUTHOR: Popov, V. P.

TITLE: Agroclimatic Characteristics of the Ukrainian SSR (Agroklimaticheskaya kharakteristika Poles'ya UKRSR)

PERIODICAL: Sb.: Narisi pro prirodu i sil's'ke gospodarstvo Ukr. Polissya, Kiyev, Un-t, 1955, pp. 131-142 [Ukrainian text; Russian resume.]

ABSTRACT: In the Poles'ye the climate conditions for agriculture are generally favorable. Precipitation is relatively great (550-600 mm). A considerable snow covering (25-30 cm) creates favorable conditions for plant wintering. In spring, because of melting snows, large reserves of water are collected in water retaining soils, and a large springtime infiltration of water is observed in sandy non water retaining soils, predominating in the Poles'ye. There are 180-200 days with a mean daily temperature above 5°, 140-160 days with a mean daily temperature above 10°, and 90-110 days with a mean daily temperature above 15°. The somewhat prolonged spring period (when the temperature

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P.

Popov, V. P.

"Investigation of the working organs of steam cultivators for zones of insufficient moisture." Joint Academic Council, All-Union Sci Res Inst of the Mechanization of Agriculture (VIM) and All-Union Sci Res Inst of the Electrification of Agriculture (VIESKh). Moscow, 1956.
(Dissertation for the Degree of Candidate in Technical Sciences).

Knizhnaya letopis'
No. 21, 1956. Moscow.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P.

External and internal water cycles. Geog.zbir. no.1:105-111 '56. (MIRA 12:7)
(Meteorology)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P.

Determining places of damage in underground pipelines. Vod. i san. tekh. no.7:14-15 Jl '56. (MLRA 9:10)

(Water pipes)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., inzhener.

Comments on two problems in Academician B.S.Svirshchevskii's book "Operating machines and tractors." Sel'khozmashina no.9:32 S '56. (MLRA 9:11)

(Tractors--Fuel consumption) (Agricultural machinery)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P.

"The Division into agroclimatic areas of the USSR"

report presented at the first plenum of the Section for Agricultural Meteorology of VASKhNIL (on tasks and research to be undertaken) 21-23 May 1957 (Meteorologiya i Gidrologiya, Leningrad, No. 8, 1957, pp 72-73)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P.

Prof. V. P. POPOV, O. V. PORYVKINA AND A. I. LAN'KO

"The results of the work done in 1957 on an economic division of the USSR according to Physical-Geographical considerations;"

report presented at an Inter-University Conference on Dividing the USSR into Economic Regions, 1-5 February 1958, Moscow. (Izv. Ak nauk SSSR, 4,146-49; 1958 author - Gvozdetskiy, N. A.)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P.; LAN'KO, A.I.; MARINICH, A.M.; PORYVKINA, O.V.

Plan for dividing the Ukrainian S.S.R. into physicogeographical regions. Nauch.dokl.vys.shkoly; geol.-geog.nauki no.1:92-100 '58. (MIRA 12:2)

1. Kiyevskiy universitet, geograficheskiy fakul'tet.
(Ukraine--Physical geography)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV V. P.
p. 2

SOV/50-59-2-22/25

3(7)
AUTHOR: Kulik, M. S.

TITLE: Second Meeting of the Commission on Agricultural Meteorology of the World Meteorological Organization (Vtoraya sessiya komissii po sel'skokhozyaystvennoy meteorologii Vsemirnoy meteorologicheskoy organizatsii)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 2, pp 67-69 (USSR)

ABSTRACT: The second meeting was held between September 29 and October 17, 1958 in Warsaw. The USSR was represented by M. S. Kulik, V. P. Popov and A. M. Chikalov. Ye. S. Ulanova was elected representative of the USSR in the Study Group for the Compilation of Weather Forecasts for Agriculture. F. F. Davitaya was elected Soviet representative in the analogous Study Group on Climatological Informations for Agriculture. I. A. Gol'tsberg was voted representative of the USSR in the Study Group for the Drawing-up of Recommendations in the Fight Against Damage Due to Morning Frost, and L. A. Razumova Soviet representative in the Study Group on the Efficacy of Forest Strips. S. Bac (Poland) developed a simple apparatus for the determination of the scope of movements of soil strata in connection with the freezing and melting of the soil. An apparatus of similar design is

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

being used by the Sabakino (Moscow oblast') Station of Agrometeorology. The Soviet delegates reported on the radioactive method of determining the moisture of the soil (developed by Danilin), on the inexpensive and convenient pluviometer designed by Davitaya, on the feeler thermometer developed by Shakhin, on the evaporator designed by Popov, on the electric thermometers for the determination of the temperature at the tiller (Bestockungsknoten) of winter seed. Mention is made of the reports delivered by the delegates from the USA and France. Soviet delegate V. P. Popov delivered a report on the principles of agroclimatic district classification. The other Soviet delegate, M. S. Kulik, spoke on agroclimatic indices for the drought. Soviet representative in the Study Group on Problems of Agroclimatic district classification is F. F. Davitaya. M. Austin Burke (Ireland) was elected by secret ballot President of the Commission, while M. S. Kulik (USSR) was elected Vice-President.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

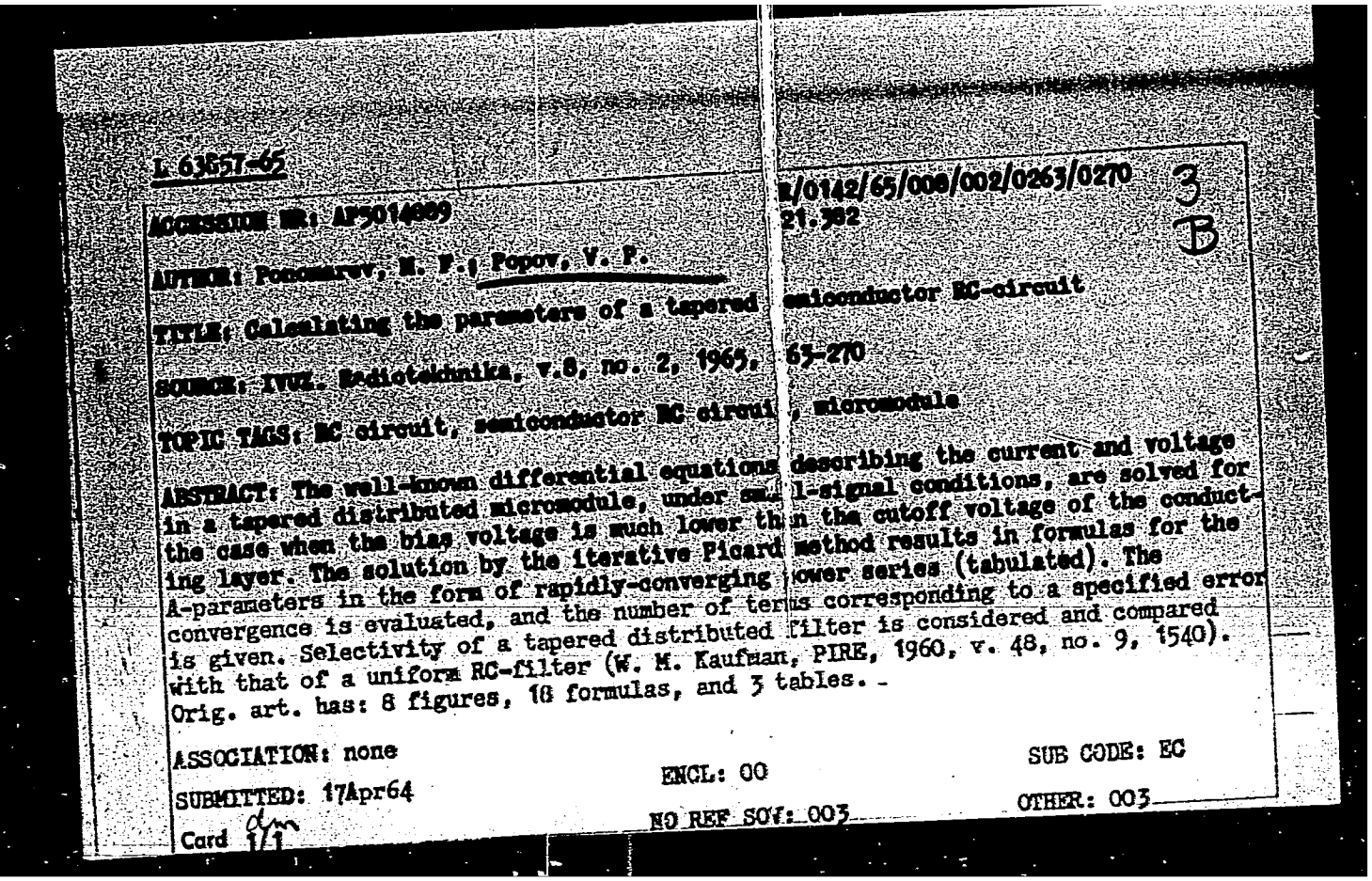
GNEDENKO, B.V., akademik; POPOV, V. ..., kand. tekhn. nauk

Problem of the reliability of agricultural machinery. Trakt. i sel'khozmash (MIRA 18:7)
no.6, 21-24 Je '65.

1. Moskovskiy gosudarstvennyy universitet i AN UkrSSR (for Gnedenko).
2. Moskovskiy geologorazvedochnyy institut imeni Sergo Ordzhonikidze (for Popov).

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



L 63557-65

ACCESSION NR: AP5014869 UR/0142/65/008/002/0263/0270 3
21.382 B

AUTHOR: Ponomarev, M. P.; Popov, V. P.

TITLE: Calculating the parameters of a tapered semiconductor RC-circuit

SOURCE: IVUZ. Radiotekhnika, v.8, no. 2, 1965, 263-270

TOPIC TAGS: RC circuit, semiconductor RC circuit, microcmodule

ABSTRACT: The well-known differential equations describing the current and voltage in a tapered distributed microcmodule, under small-signal conditions, are solved for the case when the bias voltage is much lower than the cutoff voltage of the conducting layer. The solution by the iterative Picard method results in formulas for the A-parameters in the form of rapidly-converging power series (tabulated). The convergence is evaluated, and the number of terms corresponding to a specified error is given. Selectivity of a tapered distributed filter is considered and compared with that of a uniform RC-filter (W. M. Kaufman, PIRE, 1960, v. 48, no. 9, 1540). Orig. art. has: 8 figures, 18 formulas, and 3 tables.

ASSOCIATION: none

SUBMITTED: 17Apr64 ENCL: 00 SUB CODE: EC

Card 1/1 NO REF SOV: 003 OTHER: 003

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., inzh.

Equipment for the construction of underwater crossings. Stroi. i dor. mash. 9 no.4:36-39 Ap '64. (MIRA 18:1)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 57808-65 EEC-4/EWT(1)/FCS(k)/EWA(m)-2 Pi-4/Pj-4/Pl-4 WR
ACCESSION NR: AP5016725 UR/0286/65/000/010/0043/0043
621.396.677.73

32
B

AUTHOR: Yel'kind, A. I.; Popov, V. P.; Yudin, R. N.

TITLE: Lens antenna. Class 21, No. 171028

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 43

TOPIC TAGS: lens antenna, horn antenna, lens horn antenna

ABSTRACT: The proposed lens antenna (Fig. 1 of the Enclosure) consists of a circular horn, a focusing lens, and a phase-accelerating lens. To preserve the original (linear) polarization of TE_{01} waves during unidirectional radiation, the accelerating lens is designed in the form of a set of open concentric metal plates taking up one half of the horn aperture. Orig. art. has: 1 figure. [DW]

ASSOCIATION: Institut radiofiziki i elektroniki SO AN SSSR (Institute of Radio Physics and Electronics, SO AN SSSR)

SUBMITTED: 29Jun63 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4036

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

L 57808-65 ENCLOSURE: 01

ACCESSION NR: AP5016725

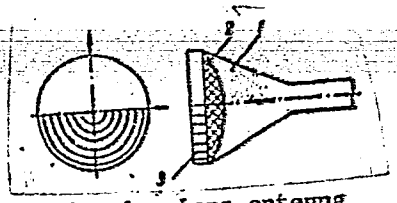


Fig. 1. Lens antenna

1 - Circular horn;
2 - dielectric lens;
3 - metal lens.

Card 2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kand.tekhn.nauk, dotsent

Calculation of the operating cycle components of teletypewriters. Sbor. trud. LIIZHT no.20:171-194 '63. (MIRA 18:1)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kand.tekhn.nauk

In the Scientific Council on the Problems of Increasing the Operating Reliability and Serviceability of Machines. Trakt. i sel'khozmash. no.1:47-48 Ja '64. (MIRA 17:4)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kand. tekhn. nauk; MENCHITS, V.P., inzh.-mekhanik; PARSHIN, V.G., tekhn. red.

[Durability of agricultural machines and the problems of their repair; materials] Dolgovechnost' mashin v sel'skom khoziaistve i problemy ikh remonta; materialy. Moskva, GOSNITI, 1962. 249 p. (MIRA 17:4)

1. Vsesoyuznoye koordinatsionnoye soveshchaniye po probleme "Otsenka tekhnicheskoy nadezhnosti, dolgovechnosti i remontosposobnosti mashin, postavliayemykh sel'skomu khozyaystvu, i sovershenstvovaniye tekhnologii i organizatsii ikh remonta."

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kand.tekhn.nauk, dotsent

Choice of operating mode of electromagnetic mechanisms in R,L networks. Sbor. trud. LIIZHT no.179:139-150 '61. (MIRA 16:11)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

NEFEDOV, V.B.; POPOV, V.P.; YAZVITSKIY, Yu.S.

[Gamma radiation in inelastic interaction of fast neutrons with atomic nuclei] Gamma-izluchenie pri neuprugom vzaimodeistvii bystrykh neitronov s atomnymi iadrami. Moskva, Glav. upr. po ispol'zovaniiu atomnoi energii, 1960. 21 p. (MIRA 17:2)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

KONDRATYUK, Ye.M.[Kondratiuk, IE.M.], otv. red.; ZOSIMOVICH, V.P., [Zosymovych, V.P.], red.; MAKAREVICH, V.A.[Makarevych, V.A.], red.; POPOV, V.P., red.; RUBTSOV, L.I., red.; SOKOLOVSKIY, O.I.[illegible], O.I.], red.; IL'KUN, G.M.[Il'kun, H.M.], red.; KOKHNO, M.A., red.; ANDRIYCHUK, M.D.[Andriichuk, M.D.], red.izd-va; TURBANOVA, N.A., tekhn. red.

[Biological problems of acclimatized plants] Pytannia biologii aklimatyzovanykh roslyn. Kyiv, 1963. 90 p. (MIRA 16:7)

1. Chlen-korrespondent AN Ukr.SSR (for Zosimovich).
(Ukraine—Plant introduction)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., prof., otv. red.; BOGATYR, T.K.[Bohatyr, T.K.], red.; DIBROVA, O.T., prof., red.; ZAMORIY, P.K.[Zamorii, P.K.], prof., red.; MARINICH, O.M.[Marynich, O.M.], doktor geogr. nauk, red.; POGREBNYAK, P.S.[Pohrebniak, P.S.], akademik, red.; PYSHKIN, B.A., red.; STAROVOYTENKO, I.P. [Starovoitenko, I.P.], kand. geogr. nauk, red.; KHARCHENKO, A.S., dots., red.; MEL'NIK, G.F.[Mel'nyk, H.F.], red.izd-va; TURBANOVA, N.A., tekhn. red.

[Materials on the meteorology and hydrology of the Ukraine] Materialy z meteorologii i gidrologii Ukrainy. Kyiv, Vyd-vo AN URSR, 1963. 140 p. (MIRA 16:8)

1. Akademiya nauk URSR, Kiev. Ukrains'ke geografichne tovarystvo. 2. AN Ukr.SSR (for Pogrebnyak). 3. Chlen-korrespondent AN Ukr.SSR (for Pishkin).
(Ukraine--Meteorology) (Ukraine--Hydrology)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., inzh.

The new IST3 asphalt melter. Stroi. truboprov. 7 no.11:27-28 N '62. (MIRA 15:12)

1. Spetsial'noye konstruktorskoye byuro "Gazstroymashina", Moskva.
(Pipelines) (Asphalt)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

VELYUKHANOVA, G.A.; PASYNKOV, R.Ye.; POZ.RN, V.I.; POPOV, V.P.

Study of the mechanical nonlinearity of certain polycrystalline ferroelectrics. Fiz. tver. tela 5 no.2:506-512 F '63. (MIRA 16:5)

(Ferroelectric substances--Testing)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P.

Aerodynamic study of the combustion chamber of a furnace with checkerwork. Inzh.-fiz.zhur. 5 no.3:39-44 Mr '62. (MIRA 15:3)

1. Energeticheskiy instktut AN BSSR, Minsk.
(Furnaces)(Combustion)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

S/170/62/005/008/002/009
B104/B102

AUTHOR: Popov, V. P.

TITLE: Choice of the burner design for a furnace with adapter

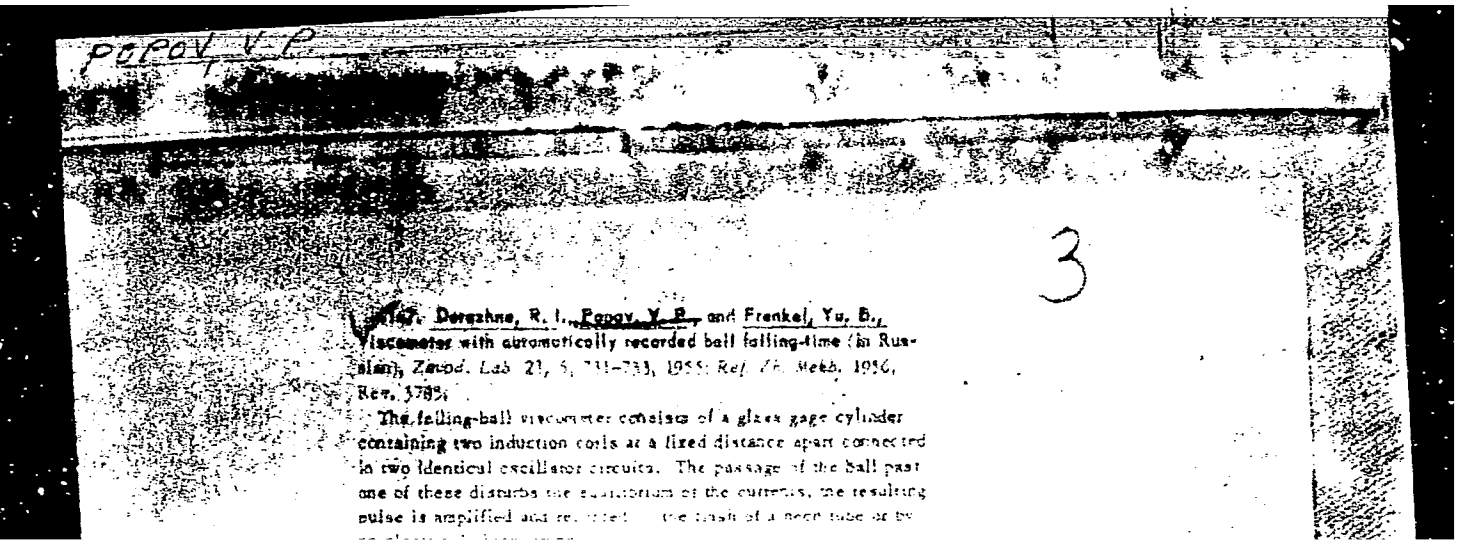
PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 8, 1962, 29-33

TEXT: Experimental data are given showing how the recirculation coefficient $n_c = q_p/q_0$ depends on X = l/D in three different types of burners and how the fuel particles are distributed over the cross section of the precombustion chamber where q_0 is the throughput of air in the burner, q_p is the fuel gas throughput; l is the distance between burner and the precombustion chamber cross section considered, D is the equivalent diameter of the precombustion chamber. Burner no. 1 was a smooth straight tube and burner no. 2 was of similar design but with the air entering the precombustion chamber both axially and tangentially so as to ensure as even a distribution of the fuel as possible. In burner no. 2 the operating conditions could be varied. A burner no. 3 has been studied already by Yu. F. Kuvayev at the VTI and is not described here.

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2



Popov, V. P.

3

[illegible], Dorozhno, R. I., Popov, V. P., and Frenkel, Yu. B., Viscometer with automatically recorded ball falling-time (in Russian), *Zavod. Lab.* 21, 5, 731–733, 1955; *Ref. Zh. Metek.* 1956, Rev. 3785.

The falling-ball viscometer consists of a glass gage cylinder containing two induction coils at a fixed distance apart connected in two identical oscillator circuits. The passage of the ball past one of these disturbs the equilibrium of the currents, the resulting pulse is amplified and re[illegible] the grid of a neon tube or by

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

of measurement. The instrument is suitable for viscosity measurements in nearly all, including opaque, liquids.

Courtesy [illegible] S. I. Pozitel, USSR

POPOV, V.P.

Investigating the strength of capron links of hook-link chains. (MIRA 14:10)
Plast.massy no.11:60-62 '61.
(Nylon) (Chains)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., prof.

On the problem of defining landscape zones. Kank. zap. Kyiv. un. 17 no.1:99-113 '58. (MIRA 13:11)
(Ukraine--Physical geography)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P.

Device for screwing nuts on conveyer collars of a conveyer furnace. Sbor.rats.predl.vnedr.v proizv. no.1:32-33 '61. (MIRA 14:7)

1. Zavod "Amurstal'". (Screwdrivers)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P.

Automation of tin-level measurement in the bath and of tin charging. Sbor. rats. predl. vnedr. v proizv. no.2:25-26 '61. (MIRA 14:7)

1. Zavod "Amurstal'".
(Automatic control)
(Tinning--Equipment and supplies)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

MANKIN, S.G., insh.; POPOV, V.P., insh.; SHTEFAN, V.Ye., insh.

Operation of once-through wet-slagging boilers on anthracite culm. (MIRA 11:8)
Elek. sta. 29 no.4:7-11 Ap '58.
(Boilers)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V. P.

Rabota na frezernykh stankakh (Uralkhimmashzavod) [Work on milling machines (Ural Chemical Machine Plant)]. Pod red. V. IA. Baikova. Mosdva, Mashgiz, 1952. 28 p.

SO: Monthly List of Russian Accessions Vol. 6 No. 7 October 1953

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

Popov, V.P.

SELETSKIY, R.A., dots.kand.tekhn.nauk; POPOV, V.P., kand.tekhn.nauk.

Determining the cost of mining operations in relation to the cross section of the cut. Nauch.trudy MGI no.13/14:31-41 '54. (MIRA 10:10)

(Mining engineering--Costs)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., inzhener.

Designating the type of pavement. Avt.dor. 19 no.4:20 Ap '56. (MLRA 9:8)

(Pavements)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., Cand Tech Sci -- (diss) "Design of reinforced concrete airfield coverings considering the distribution of interior stresses in the formation of cracks." Len, 1958, 17 pp, 2 sheets of sketches (Len Military Air Force Engineering Acad im A.F. Mozhayskiy) (KL, 23-58, 107)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., insh.

Surface coatings of increased roughness. Avt. dor. 23 no.4:20 Ap '60. (MIRA 13:6)
(Pavements, Concrete)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, Vladimir Petrovich; DMITRIYEV, I.N., red.; TRUKHINA, O.N., tekhn. red.

[Polymers in the mechanization of agriculture] Polimery v mekhanizatsii sel'skogo khoziaistva. Moskva, Sel'khozizdat, 1962. 86 p. (MIRA 15:10)
(Polymers) (Agricultural machinery)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kandidat tekhnicheskikh nauk.

Some methods of calculating input current curves. Sbor.nauch.trud. LETIIZHT no.6 177-201 '54. (MLRA 9:1)
(Telegraph lines)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kandidat tekhnicheskikh nauk.

Calculating the workload of electromagnetic devices in circuits having concentrated resistances and inductances. Sbor.nauch.trud. LNTIIZHT no.6:202-215 '54. (MLRA 9:1)
(Telegraph lines)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kand.tekhn.nauk,dots.

Stability of telegraph communications with start-stop regenerative retransmission. Sbor.LIIZHT no.161:152-160 '58. (MIRA 11:12)
(Telegraph)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

POPOV, V.P., kand.tekhn.nauk, dots.

Methods of increasing communication stability on existing multiplex apparatus. Sbor.LIIZHT no.161:161-173 '58. (MIRA 11:12)

(Telegraph--Multiplex systems)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

Popov, V.P

6(7) PHASE I BOOK EXPLOITATION SOV/1291

Balagin, Ivan Yakovlevich, Vadim Petrovich Popov and Viktor Yevgrafovich Tyurmorezov

Telegrafiya (Telegraphy) Moscow, Transzheldorizdat, 1958. 462 p. 7,000 copies printed.

Ed.: Stroganov, L.P., Engineer; Tech. Ed.: Khitrov, P.A.

PURPOSE: This book was approved by the Main Administration of Educational Institutions, USSR Ministry of Railroads, as a textbook for students of railroad automation, telemechanics and communications. It may also be used by engineers and technicians in these fields.

COVERAGE: The author describes fundamentals of the theory of telegraph communication and discusses the circuits and construction details of telegraph apparatus used in railroad communications. The author mentions A.D. Ignat'yev, L.N. Gur'yev, and G.P. Kozlov as having done work on the multiplexing of telegraph circuits and and radio channels in 1936. Also mentioned are Engineers

Card 1/18

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

N.A. Volkov, N.G. Gagarin, and S.I. Chasovikov, who in 1935 developed the ST-35 start-stop equipment. I.Ya. Balagin wrote the Introduction and Chapters I through XIII; V.P. Popov wrote Chapters XIV through XXII and Chapters XXVIII and XXIX; V. Ye. Tyurmorezov wrote Chapters XXIV through XXVII. There are 18 references, all Soviet.

TABLE OF CONTENTS:

Introduction 3

PART I. GENERAL INFORMATION 6

Ch. I. Basic Concepts 6
1. Principle of telegraph communication 6
2. Telegraph codes 7
3. Basic methods of telegraphy 10
4. Classification of telegraph apparatus 14
5. Operating principle of uniform code apparatus 15
6. Basic methods of correction 18

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

Telegraphy

7. Distortions of telegraph pulses and corrective margin of telegraph apparatus 23
8. Speed of telegraph communication 26
9. Efficiency of telegraph communication 27

PART II. TELEGRAPH RELAYS 29

Ch. II. Nonpolarized Telegraph Relays and Electromagnets 29
1. General information 29
2. Basic parameters of relays 31
3. Pulling force of nonpolarized relays 33
4. Operating and dropout current of relay armature 37
5. Pick-up time of relay armature 38
6. Operating time of relay armature 41

Ch. III. Polarized Telegraph Relays 43
1. General information 43

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

Telegraphy 43

2. Classification of polarized telegraph relays 46
3. Contact pressure exerted by the permanent magnet of a relay 48
4. Relay pulling characteristics 49
5. Relay sensitivity 50
6. Operating time of relay armature 52
7. Armature vibration 54
8. Relay with a flexible armature axis 58
9. Relays with additional windings 62
10. Construction of polarized telegraph relays 65
11. Adjustment of polarized relays 66
12. Instruments for testing relays 70

Ch. IV. Electronic Relays 70

1. General information 71
2. Relay circuit with one stable stage 72
3. Relay circuit with two stable stages

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

PART III. TELEGRAPH SYSTEMS. DISTORTIONS OF TELEGRAPH PULSES 73

Ch. V. Systems of Simplex Telegraphy 73
1. Marking current and a d-c system 73
2. Selecting the method of power supply for a d-c system 74
3. Simplex telegraphy system with currents of two directions 76
4. Advantages of bipolar telegraphy as compared with unipolar telegraphy 77

Ch. VI. Systems of Duplex Telegraphy 79
1. Basic requirements of duplex telegraphy systems 79
2. Differential system of duplex telegraphy with currents of two directions 79
3. Bridge type system of duplex telegraphy with currents of two directions 85
4. Balancing networks 86

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

5. Methods of selecting components of a balancing network 87
6. Circuits improving the performance of duplex telegraphy systems. Resistance lamps 90

Ch. VII. Distortions of Telegraph Pulses 91
1. Classification of distortions 91
2. Pulse distortions during operation with unidirectional current 93
3. Pulse distortions during operation with bidirectional current 101
4. Calculation of overall level of pulse distortion 103
5. Measurement of telegraph pulse distortion 103

PART IV. THE ST-35 AND T-51 MORSE TELEGRAPH APPARATUS 106

Ch. VIII. Morse Telegraph Apparatus 106
1. Component parts of Morse apparatus and their function 106

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

2. The key 107
3. Operating mechanism and driving gear 107
4. Tape-winding, printing and electromagnetic mechanisms 109

Ch. IX. The ST-35 Start-Stop Telegraph Apparatus 111
1. Basic technical data 111
2. Basic components of the apparatus 112
3. Transmitting unit 115
4. Receiving unit 120
5. Automatic stops 130
6. Connection diagrams of the ST-35 apparatus 132
7. Connecting the ST-35 apparatus into the line 135

Ch. X. Margin of the Start-Stop Apparatus 136
1. Basic considerations 136
2. Margin of the type-setting unit of the ST-35 apparatus 138
3. Rated margin of the ST-35 apparatus 141
4. Operating margin of the ST-35 apparatus 141

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

Ch. XI. The T-51 Page Teletype Telegraph Apparatus 142
1. General information 142
2. Drive mechanism 143
3. Transmitting unit 143
4. Receiving unit 145
5. Automatic stop 154
6. Automatic responder 155

PART V. DEVICES FOR AUTOMATIC OPERATION AND MEASUREMENT OF DISTORTIONS OF START-STOP TELEGRAPH APPARATUS 158

Ch. XII. Devices for Automatic Operation 158
1. General information 158
2. Perforator and reperforator 159
3. Transmitter 160
4. Reperforator and transmitter attachments for the ST-35 apparatus 161

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2

Ch. XIII. Instruments for Measuring Distortions and Regulating the Start-Stop Apparatus 164
1. Indicating instrument 164
2. Stroboscopic instrument 167
3. Instrument for regulating the transmitter contact system of the ST-35 apparatus 168

PART VI. MULTIPLEX TELEGRAPH APPARATUS 170

Ch. XIV. Multiplex Printing Telegraph Apparatus 170
1. General information 170
2. Performance characteristics of multiplex telegraph apparatus 171
3. Distributors for disc-type and cam-type multiplex apparatus 173
4. Transmitting mechanisms 175
5. Receiving mechanisms 178

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001342410013-2"